

WHAT IS CLAIMED IS:

1. A method of inhibiting expression of MDM2 in a mammal, the method comprising administering to the mammal an effective MDM2-expression inhibiting amount of an anti-MDM2 antisense oligonucleotide.
- 5 2. The method according to claim 1 comprising co-administering a cancer chemotherapeutic agent.
3. The method according to claim 2, wherein the cancer chemotherapeutic agent is 10-hydroxycamptothecin, adriamycin, or 5-fluorouracil.
4. The method according to claim 1 comprising co-treating the mammal with anti-cancer levels of radiation.
- 10 5. A method of inhibiting cancer *in vivo*, the method comprising administering a cancer-inhibiting amount of an anti-MDM2 antisense oligonucleotide, wherein the cancer involves overexpression of MDM2.
6. The method according to claim 5, wherein the cancer is selected from the group consisting of osteosarcoma, soft tissue sarcoma, breast cancer, ovarian cancer, cervical cancer, oral squamous cell carcinoma, brain tumor, esophageal cancer, colorectal carcinoma, bladder cancer, urithelial carcinoma, leukemia, and large B cell lymphoma.
- 15 7. The method according to claim 5 comprising co-administering an effective cancer-treating amount of a cancer chemotherapeutic agent.
- 20 8. The method according to claim 7, wherein the cancer chemotherapeutic agent is 10-hydroxycamptothecin, adriamycin, or 5-fluorouracil.
9. The method according to claim 5 comprising co-treating the mammal with anti-cancer levels of radiation.

10. A method of increasing intracellular p53 concentration, the method comprising administering to the cell or to an animal comprising the cell an effective MDM2-expression inhibiting amount of an anti-MDM2 antisense oligonucleotide.
11. The method according to claim 10 comprising co-administering a cancer chemotherapeutic agent.
- 5
12. The method according to claim 11, wherein the cancer chemotherapeutic agent is 10-hydroxycamptothecin, adriamycin, or 5-fluorouracil.
13. The method according to claim 10 comprising co-treating the mammal with anti-cancer levels of radiation.
- 10
14. The method according to claim 1, 2, 4, 5, 6, 7, 9, 10, 11, or 13, wherein the antisense oligonucleotide binds to mdm2-encoding RNA is complementary to a sequence that overlaps by at least one nucleotide a sequence within the mdm2 RNA, which sequence within the mdm2 RNA is selected from the group consisting of SEQ ID NOS: 2, 3, 4, 7, 8, 9, 10, and 11, and wherein the antisense oligonucleotide comprises from about 8 to about 50 nucleotides.
- 15
15. The method according to claim 1, 2, 4, 5, 6, 7, 9, 10, 11, or 13, wherein the antisense oligonucleotide binds to mdm2-encoding RNA is complementary to a sequence that overlaps by at least one nucleotide a sequence within the mdm2 RNA, which sequence within the mdm2 RNA is selected from the group consisting of SEQ ID NOS: 13, 14, 15,
- 20
- 16, 17, 18, 19, 20, 21, 22, 23, and 24, and wherein the antisense oligonucleotide comprises from about 8 to about 50 nucleotides.
16. The method according to claim 14, wherein the antisense oligonucleotide has a nucleotide base sequence set forth in Sequence Listing as SEQ ID NO:28.
17. The method according to claim 15, wherein the antisense oligonucleotide has a nucleotide base sequence set forth in Sequence Listing as SEQ ID NO:36.
- 25

- (b) (4) CDR 60000000000000000000000000000000
18. The method according to claim 14, wherein the antisense oligonucleotide has a nucleotide base sequence set forth in Sequence Listing as SEQ ID NO: 27, 28, 29, 30, 31, 32, 33, and 34.
19. The method according to claim 15, wherein the antisense oligonucleotide has a nucleotide base sequence set forth in Sequence Listing as SEQ ID NOS: 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, and 46.
20. The oligonucleotide according to claim 14, wherein the oligonucleotide has at least one internucleotide linkage selected from the group consisting of phosphorothioate, phosphorodithioate, alkylphosphonate, alkylphosphonothioate, phosphotriester, phosphoramidate, siloxane, carbonate, carboxymethylester, acetamide, carbamate, thioether, bridged phosphoramidate, bridged methylene phosphonate, bridged phosphorothioate and sulfone internucleotide linkages.
21. The oligonucleotide according to claim 15, wherein the oligonucleotide has at least one internucleotide linkage selected from the group consisting of phosphorothioate, phosphorodithioate, alkylphosphonate, alkylphosphonothioate, phosphotriester, phosphoramidate, siloxane, carbonate, carboxymethylester, acetamide, carbamate, thioether, bridged phosphoramidate, bridged methylene phosphonate, bridged phosphorothioate and sulfone internucleotide linkages.
22. The method according to claim 20, wherein the antisense oligonucleotide comprises an RNase H activating segment of four or more consecutive phosphodiester and/or phosphorothioate internucleotide linkages.
23. The method according to claim 21, wherein the antisense oligonucleotide comprises an RNase H activating segment of four or more consecutive phosphodiester and/or phosphorothioate internucleotide linkages.

24. The method according to claim 22, wherein the RNase H activating segment is flanked on both sides by a segment of two or more nucleotides that are modified to increase nuclease resistance and/or target hybridization affinity.
25. The method according to claim 23, wherein the RNase H activating segment is flanked  
5 on both sides by a segment of two or more nucleotides that are modified to increase nuclease resistance and/or target hybridization affinity.
26. The method according to claim 24, wherein the nucleotides of the segments of 2 or more nucleotides are 2'-substituted ribonucleotides.
27. The method according to claim 25, wherein the nucleotides of the segments of 2 or more  
10 nucleotides are 2'-substituted ribonucleotides.
28. The method according to claim 26, wherein the 2'-substituted nucleotides are substituted at their 2' position with methoxy or methoxyethoxy.
29. The method according to claim 27, wherein the 2'-substituted nucleotides are substituted  
15 at their 2' position with methoxy or methoxyethoxy.